BOCHKOVSKAYA, I.V., gornyy inzh., red.; BONDARENKO, Yu.A., gornyy ibzh., red.; VELICHKO, A.P., gornyy inzh., red.; GONTARENKO, V.A., gornyy inzh., red.; OSTASHEVSKIY, G.Ye., gornyy inzh., red.; OKUNEV, A.L., gornyy inzh., red.; KIRILENKO, R.Ye., gornyy inzh., red.; LADOZHINSKIY, V.N., gornyy inzh., red.; LOBAS, A.S., gornyy inzh., red.; MAKAROVA, N.I., gornyy inzh., red.; POLYANSKIY, F.S., gornyy inzh., red.; SHTUNDER, I.I., gornyy inzh., red.; ARSENT'YEV, A.I., kand. tekhn. nauk, otv. red.; PROZOROVSKIY, Ye.G., tekhn. red.

[Handbook on engineering standardization for open-pit mining] Spravochnik po tekhnicheskomu normirovaniiu otkrytykh gornykh rabot. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 264 p. (MIRA 14:10)

1. Krivoy Rog. Gornorudnyy institut.
(Strip mining—Standards)

PROKOPYUK, A.; MIROSHNIKOV, I.; LOBAS, B.

We will celebrate the fortieth anniversary of the Revolution with appropriate achievements. Muk.-elev.prom. 23 no.7:18-19 Jl '57. (MLRA 10:9)

1. Voroshilovskiy kombikormovyy zavod Primorskogo kraya.
(Grain milling)

LOBAS, G.N.

Turbomilling device for cleaning steam boilers. Masl.-zhir. prom. 25 no.2:36-37 '59. (MIRA 12:2)

1. Nevinnomysskiy maslozavod.
(Turbomachines) (Boilers--Maintenance and repair)

MEKGL'NIK, R.Ya.; DOBRO[illegible] N.G., [illegible]

Additional data on chromatographic separation of metabolic products in fractions. Biokhimiia 30 no.2:265-267 Mr-Ap '65. (MIRA 18:7)

1. Institut biokhimii imeni Bakha AN SSSR, Moskva.

LOBAS, L.G. [Lobas, L.H.] (Kiyev)

Equations of the motion of a tore and minor vibrations of a motorcycle in steady motion along a plane. Prykl.mekh. 8 no.2:223-226 '62. (MIRA 15:3)

1. Institut mekhaniki AN USSR.
(Motorcycles--Dynamics)

S/021/62/000/011/004/013
D251/D308

AUTHOR: Lobas, L. G.

TITLE: On different forms of the equations of motion of nonholonomic systems in holonomic coordinates

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 11, 1962, 1436-1439

TEXT: The author reviews the ~~methods of S.~~ A. Chaplygin and P. Appel and gives a new intermediate method of deriving the equations of motion and nonholonomic systems. The general equations of dynamics are transformed, firstly to independent variations and derivatives of the Cartesian coordinates, and hence, in the usual way, to independent variations and derivatives of generalized (Lagrangian) coordinates. The equations are expressed in terms of the kinetic energies of the 'principal points' and the 'points of constraint', and of the generalized external forces. Some indications of the occurrence of such systems are given.

Card 1/2

On different forms ... S/021/62/000/011/004/013
D251/D308

ASSOCIATION: Instytut mekhaniky AN URSR (Institute of Mechanics of the AS UkrSSR)

PRESENTED: by H. M. Savin, Academician

SUBMITTED: February 2, 1962

Card 2/2

LOBAS, L.G. [Lobas, L.H.] (Kiyev)

Reduction to quadratures of the motion of a tore on a plane.
Prykl. mekh. 9 no.4:409-416 '63. (MIRA 16:8)

1. Institut mekhaniki AN UkrSSR.

LOBAS, L.G. [Lobas, L.H.] (Kiyev)

Stability of the motion of an airplane controlled by an autopilot along the take-off and landing strip. Prykl. mekh. 9 no.6:659-669 '63. (MIRA 16:12)

1. Institut mekhaniki AN UkrSSR.

ACCESSION NR: AP5009951 UR/0078/65/010/004/0946/0949

AUTHOR: Belyayev, I. N.; Lobas, L. M.

TITLE: Zirconyl chloride-sodium chloride (potassium chloride)-water systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 4, 1965, 946-949

TOPIC TAGS: zirconyl chloride, sodium chloride, potassium chloride, solubility

ABSTRACT: The article presents data from physico-chemical studies of two systems: [illegible]-H_2O and $ZrOCl_2$-KCl-H_2O. In these systems the solubility was measured at 25±0.1°C. Resistivity, viscosity and density were measured along the isothermal saturation curve in saturated solutions. The solubility isotherms for both of these systems consist of two crystallization branches. One branch corresponds to the crystallization of pure components, NaCl and KCl, while the second branch refers to the crystallization of $ZrOCl_2 \cdot 8H_2O$. No double salts or solid solutions were found in these systems. The solubility isotherms of these systems are shown in Figs. 1 and 2 of the Enclosure. The nature of the changes in the isothermal properties in these systems as a function of the composition corresponds strictly

Card 1/4

L 12976-65

ACCESSION NR: AP5009951

to the nature of the changes in the total molar concentration of all salt in solution. Orig. art. has: 4 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 08Jun64 ENCL: 02 SUB CODE: IC, GC

NO REF SOV: 005 OTHER: 000

Card 2/4

ACCESSION NR: AP5009951

ENCLOSURE: 01

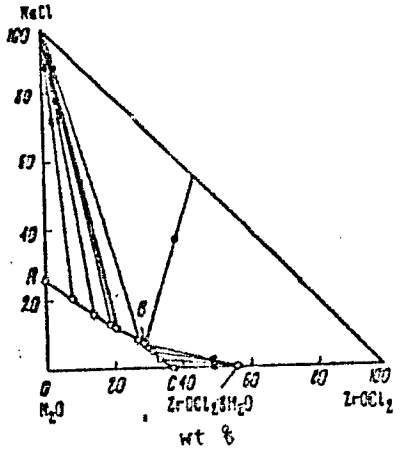


Fig. 1. Solubility in the $ZrOCl_3$-NaCl-H_2O system at 25°C.

Card 3/4

L 52976-65

ACCESSION NR: AP5009951

ENCLOSURE: 02

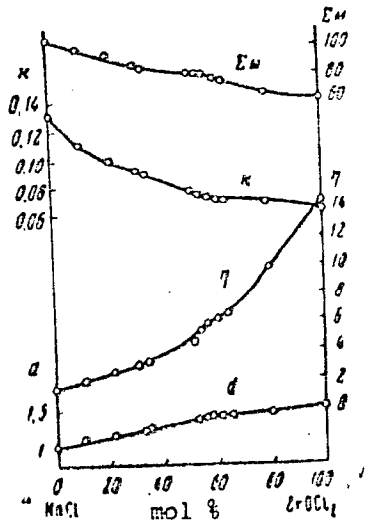


Fig. 2. Solubility in the $ZrOCl_2$-KCl-H_2O system at 25°C.

Card 4/4

LOBAS, O.P.; SMOL'YANINOV, S.I.

Apparatus for the high-frequency determination of concentration.
Izv. TPI 126:80-83 '64. (MIRA 18:7)

RUDENKO, D.A., prof.; LOBAS, P.A., inzh.

Mechanized laying of soft limestone pavements. Avt.dor. 26 no.4:10-11 Ap '63. (MIRA 16:4)
(Road construction) (Limestone)

LOBAS, P.A., inzh.

Preparing bituminous mixtures from weak limestone in the D-370 mobile mixer. Avt. dor. 27 no.2:15-16 F '64. (MIRA 17:3)

LOBASENOK, A. K.

LOBASENOK, A. K. -- "The Physicomechanical Properties of the Wood of the Black Alder in Connection with the Type of Forest." Min Higher Education USSR. Belorussian Forestry Engineering Inst imeni S. M. Kirov. Moscow, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences).

So.: Knizhnaya Letopis', No. 6, 1956.

K-3

USSR/Forestry - Dendrology.

Abs Jour: Ref Zhur - Biol., No 19, 1958, 86860

Author : Lobasenok, A. K.
Inst : Belorussian Institute of Forest Technology
Title : The Difference in Physical-mechanical Properties of Black Alder Wood of Seed and Stooling Origin

Orig Pub: Sb. nauchn. rabot. Belorussk. lesotekhn. in-t, 1958, vyp. 9, 123-131.

Abstract: No abstract

Card 1/1

LOVRIK, A.K.

"35 years since the establishment of the first cathedra on forest economy in the Soviet Union, 1923-1958."

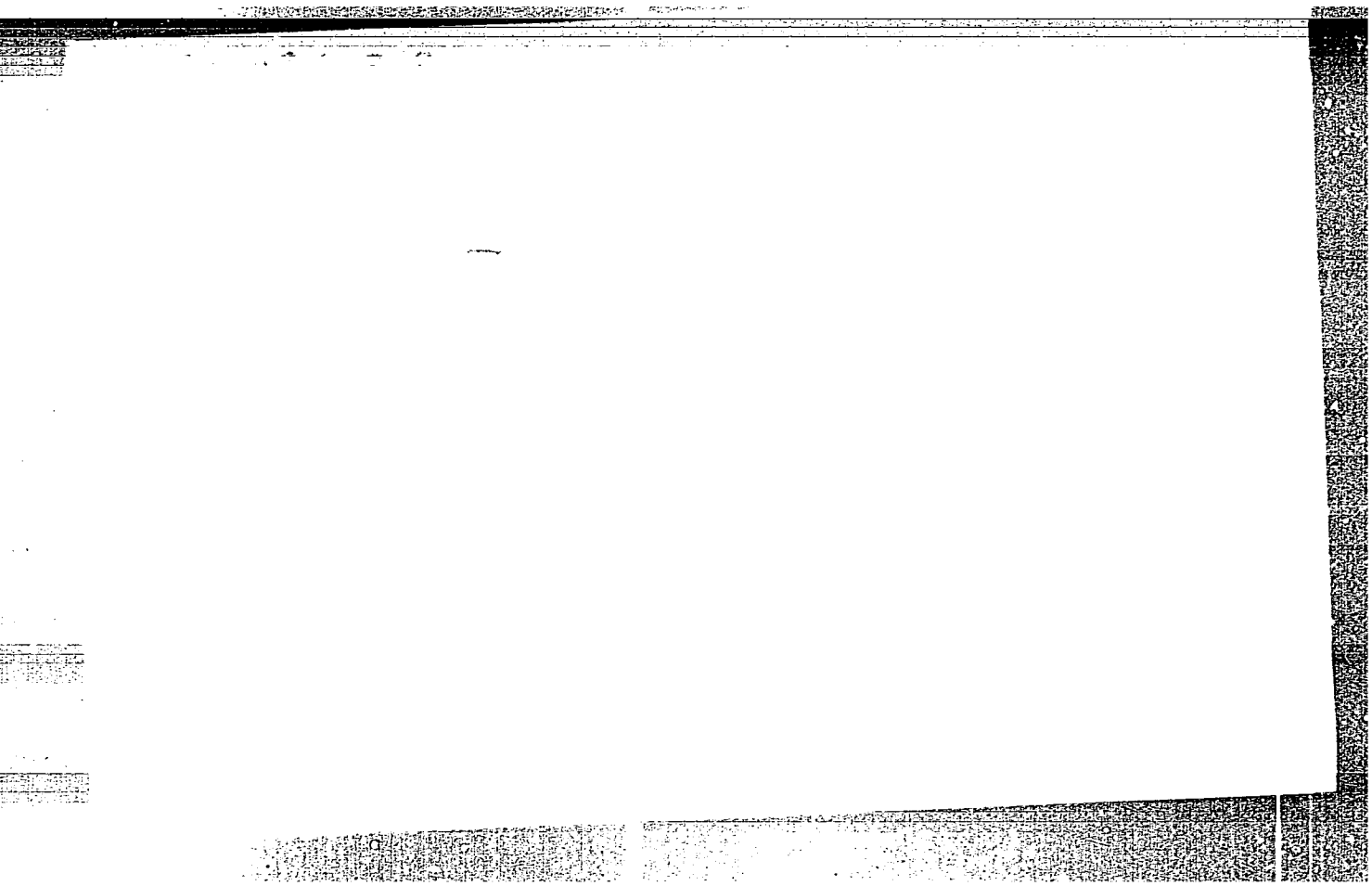
p. 47 (Gorsko Stopanstvo, Vol. 14, no. 4, 1958, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 9, September 1958

VIKHROV, Viktor Yevgrafovich ; LOBASENOK, Artemiy Kuz'mich;
MINCHUKOVA, T.G., red.; MORGUNOVA, G.M., tekhn. red.

[Technical properties of wood as related to forest types]
Tekhnicheskie svoistva drevesiny v sviazi s tipami lesa.
Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i pro-
fessional'nogo obrazovaniia BSSR, 1963. 71 p.
(MIRA 16:5)

(Wood)



APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930320015-8"

SOV/32-24-9-45/53

AUTHORS: Borok, B.A., Gavrilin, V.I., Lobashev, B.P., L'vovskaya, V.P.

TITLE: Perfection of the Furnace TVV-2 for Use in Vacuum and Controllable Atmospheres (Usovershenstvovaniye pechi TVV-2 dlya raboty v vakuume i kontroliruyemykh atmosferakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 9, pp 1158-1159 (USSR)

ABSTRACT: The furnace mentioned in the title, which is built at the "Platinopribor" factory, was rebuilt for experiments in a controllable atmosphere and with a greater capacity. B.V. Fedin and B.P. Lobashov, as well as A.F. Androsov and Ya.I. Pikalov took part in the reconstruction. The temperature control was changed from a step-like to a continuous one. As hitherto the furnace has been operating only in vacuum no special fixing of the upper part of the furnace to the furnace body has been provided. This had to be changed as in the present case the pressure within the furnace is equal to atmospheric pressure. The increase in dimensions of the furnace was carried out in two variables. First, an increase of the radius of the tungsten heater (to 90 mm), which secured a temperature of 2300°. In the other case a temperature of 1400° could be obtained by using a heater of molybdenum sheet with a diameter of 130 mm.

Card 1/2

Perfection of the Furnace TV-2 for Use in Vacuum and Controllable Atmospheres SOV/32-24-9-45/53

The temperature control by the transformer OSO40/0,5 as practised up to now was changed by L.N. Petrov by introducing the transforme: ST-34 (or ST-24) and the autotransformer TNN-40. The life of the two heaters is given with 1,5 months. A diagram of the changed furnace TV-2 is given, and it is mentioned that the furnace has been successfully used for 5 years. There is 1 figure.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

Card 2/2

DYMOV, V.V.; LOBASHEV, B.P.; MARKELOV, V.V.; SABININ, P.G.

Structural characteristics of the hydrostatic extrusion equipment designed by the Central Scientific Research Institute of Ferrous Metallurgy. Sbor. trud. TSNIICHM no.43:32-42 '65. (MIRA 18:10)

BAUM.N, R.V.; [illegible]BACHEV, B.P.

Explosive extrusion of powder materials; survey of literature. Sbor. trud. TSNIICHM no.43:43-52 '65. (MIRA 18:10)

SOURCE: Ref. zh. Metallurgiya, Abs. 6G198

AUTHOR: Meyerson, G. A.; Borok, B. A.; Lobashev, B. P.

TITLE: Investigation of a process for the [illegible] pressing of metallic pow-

CITED SOURCE: Tr. 7 Vses. nauchno-tekhn. konferentsii po poroshk. metallurgii. Yerevan, 1964, 106-121

TOPIC TAGS: powder metal compaction, titanium, copper, molybdenum, hydrostatic pressure, specific density, cold hardening, [illegible]

TRANSLATION: Hydrostatic pressing of titanium, copper, and molybdenum powders over a range of pressures from 3 to 68 kg/mm^2 was investigated. To describe the dependence of the relative density of the briquets, γ, on the pressing pressure, p, the equation $p/p_{max} = \gamma^n$ was used, where p_{max} is the pressure necessary to ensure production of a briquet with a density of 100%, and n is a constant. This equation describes hydrostatic pressing more accurately than the

Card 1/2

conventional pressing process. In hydrostatic pressing of copper powder, P_{max} = 66.22 kg/mm, 1/m = 0.212, the respective values for titanium powder are 67.95 and 0.266; for standard molybdenum powder 165.00 and 0.202, for refined molybdenum powder 170.20 and 0.208. Analysis of the curve log p - log v showed that, in contrast to conventional pressing, in the hydrostatic pressing of briquets up to v = 83-85%, no appreciable cold hardening of the particles occurs. The microhardness of copper particles does not change after hydrostatic pressing under pressure up to 20 kg/mm^2, while after conventional pressing the microhardness of the particles increases. The absence of cold hardening after hydrostatic pressing is explained by the impossibility of directed plastic deformation. The efficiency of hydrostatic pressing is explained not only by the absence of losses due to external friction, but also by the three-dimensional displacement of the particles. The scattering of the density of large briquets (diameter 140-180 mm) produced by hydrostatic pressing is within the limits of the accuracy of the measurements. During hydrostatic pressing the air pressure in the pores is insignificant.

M. Bal'shin

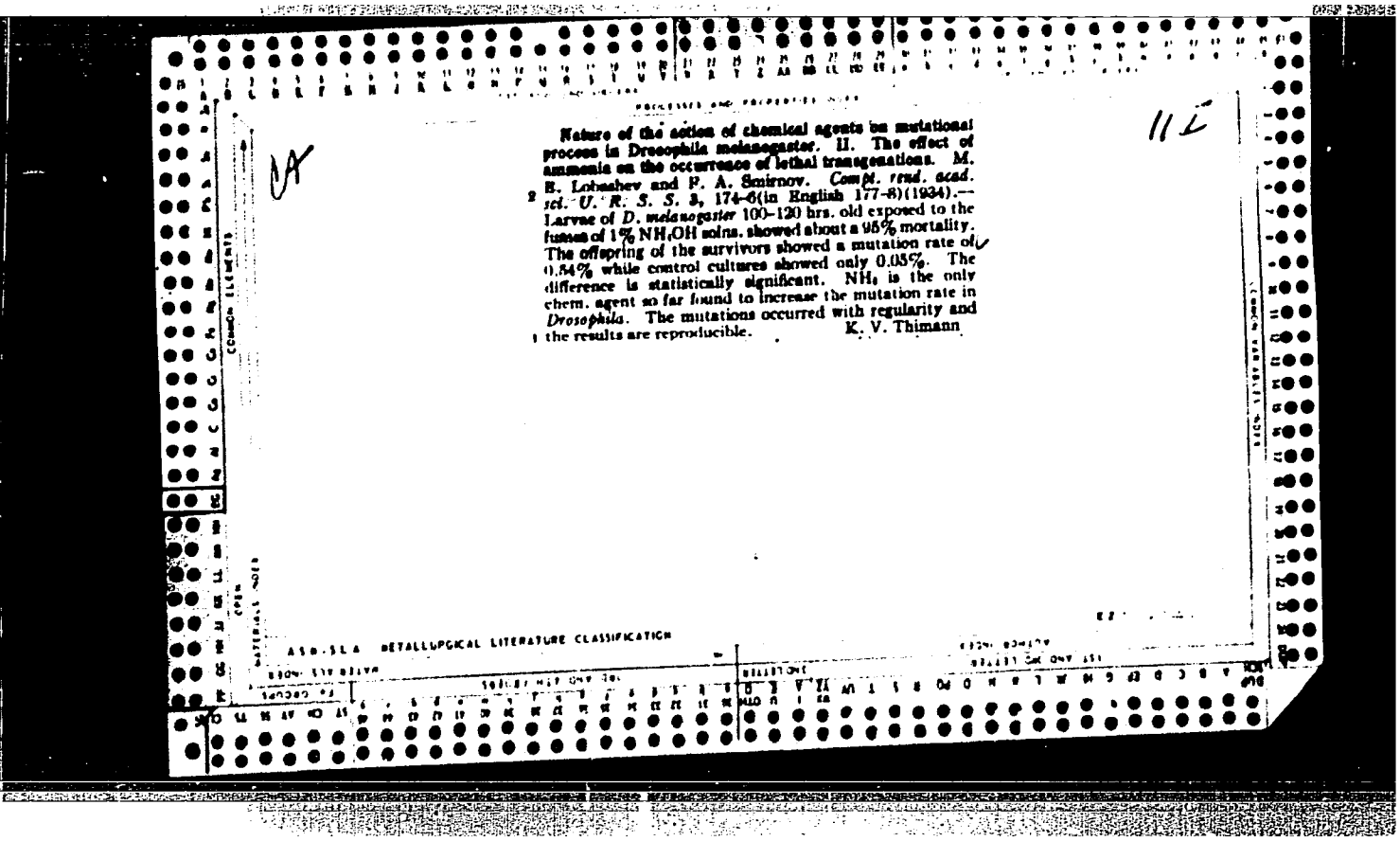
SUB CODE: MM ENCL: 00

Card 2/2 *JDP*

LOBASHEV, Mikhail Yefimovich; PETROVICHEVA, O.L., red.; ZHUKOVA, Ye.G., tekhn. red.

[Genetics; a course of lectures] Genetika; kurs lektsii. Leningrad, Izd-vo Leningr. univ. 1963. 488 p. (MIRA 16:9)

(Genetics)



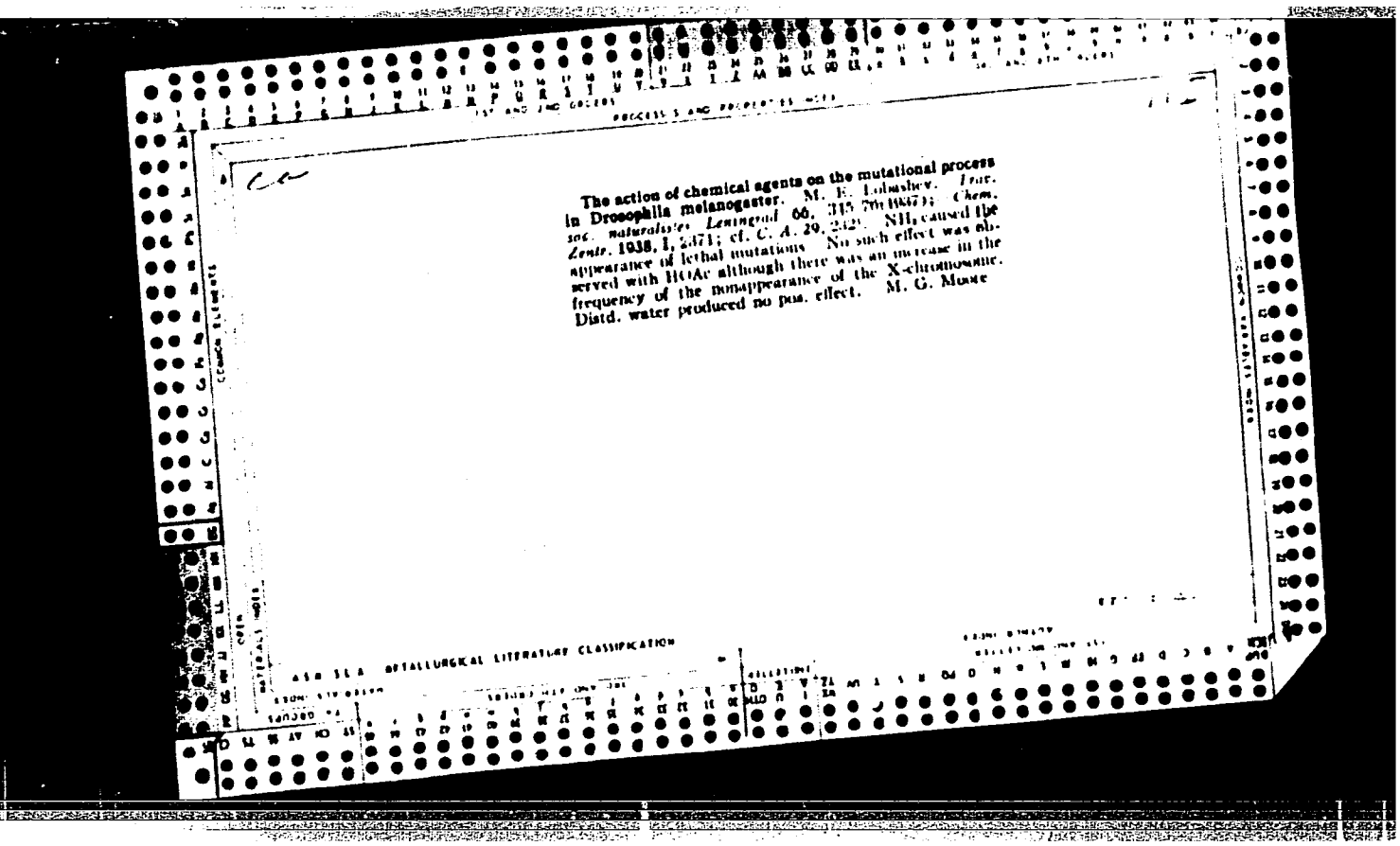
Nature of the action of chemical agents on mutational process in Drosophila melanogaster. II. The effect of ammonia on the occurrence of lethal transgenations. M. B. Lobashev and F. A. Smirnov. *Compt. rend. acad. sci. U. R. S. S.* 3, 174-6(in English 177-8)(1934).—Larvae of *D. melanogaster* 100–120 hrs. old exposed to the fumes of 1% NH_4OH solns. showed about a 95% mortality. The offspring of the survivors showed a mutation rate of 0.54% while control cultures showed only 0.05%. The difference is statistically significant. NH_3 is the only chem. agent so far found to increase the mutation rate in *Drosophila*. The mutations occurred with regularity and the results are reproducible. K. V. Thimann

A58-SL4 METALLURGICAL LITERATURE CLASSIFICATION

LOBASHEV, M. E.

"The influence of temperature on irradiated sea-cells of Drosophila Melanogaster." (p. 689) Laboratory of Genetics and Experimental Zoology (Chief: Prof. A. P. Vladirirskii), Petergofsk Biological Institute. by Lobashev, M. E. and Pavlovets, M. T.

SO: Biological Journal (Biologicheskii Zhurnal) Vol. VI, 1937, No. 3



The action of chemical agents on the mutational process in Drosophila melanogaster. M. E. Lobashev. *Trav. soc. naturalistes Leningrad* 66, 315-70 (1937); *Chem. Zentr.* 1938, I, 2471; cf. *C. A.* 29, 242. NH_3 caused the appearance of lethal mutations. No such effect was observed with HOAc although there was an increase in the frequency of the nonappearance of the X-chromosome. Distd. water produced no pos. effect. M. G. Moore

LOBASHOV, N. E.

"The Effect Of X-Radiation On The Frequency Of Lateral Mutations In Mature And Immature Sex-Cells Of Drosophila Melanogaster. Laboratory Of Genetics And Experimental Zoology (Chief: Prof. A. F. Vladimirskii), Petergofsk Biological Institute, Leningrad State University." (p. 581) by Lobashov, N. E.

SO: PREDECESSOR OF JOURNAL OF GENERAL BIOLOGY. (Biologicheskii Zhurnal) Vol. VII, 1938 No. 3

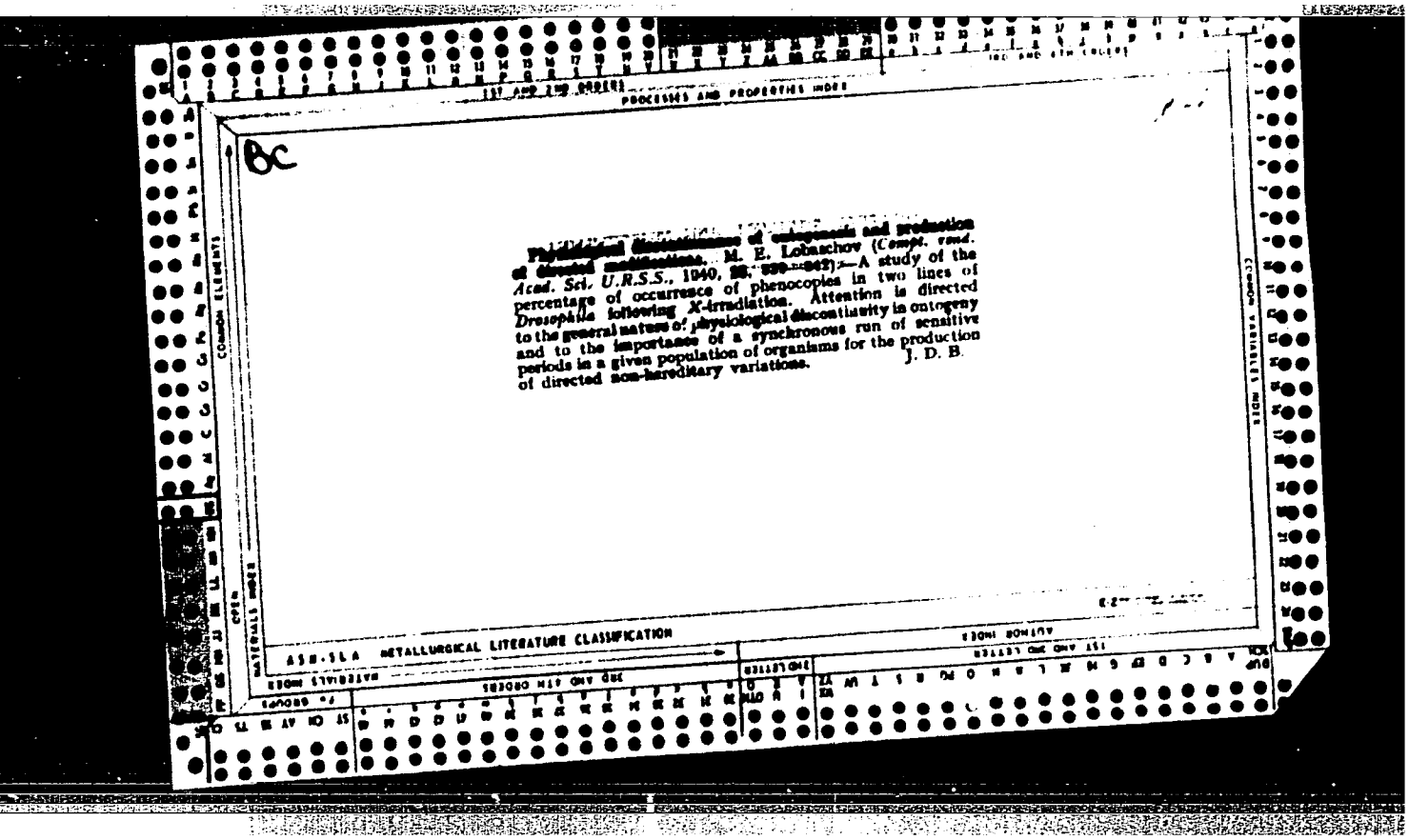
LOBASHEV, M. Ye.

"Roentgenomorphoses in Drosophila Melanogaster as Dependent on Temperature of Development," Dokl. AN SSSR, 23, No.8, 1939

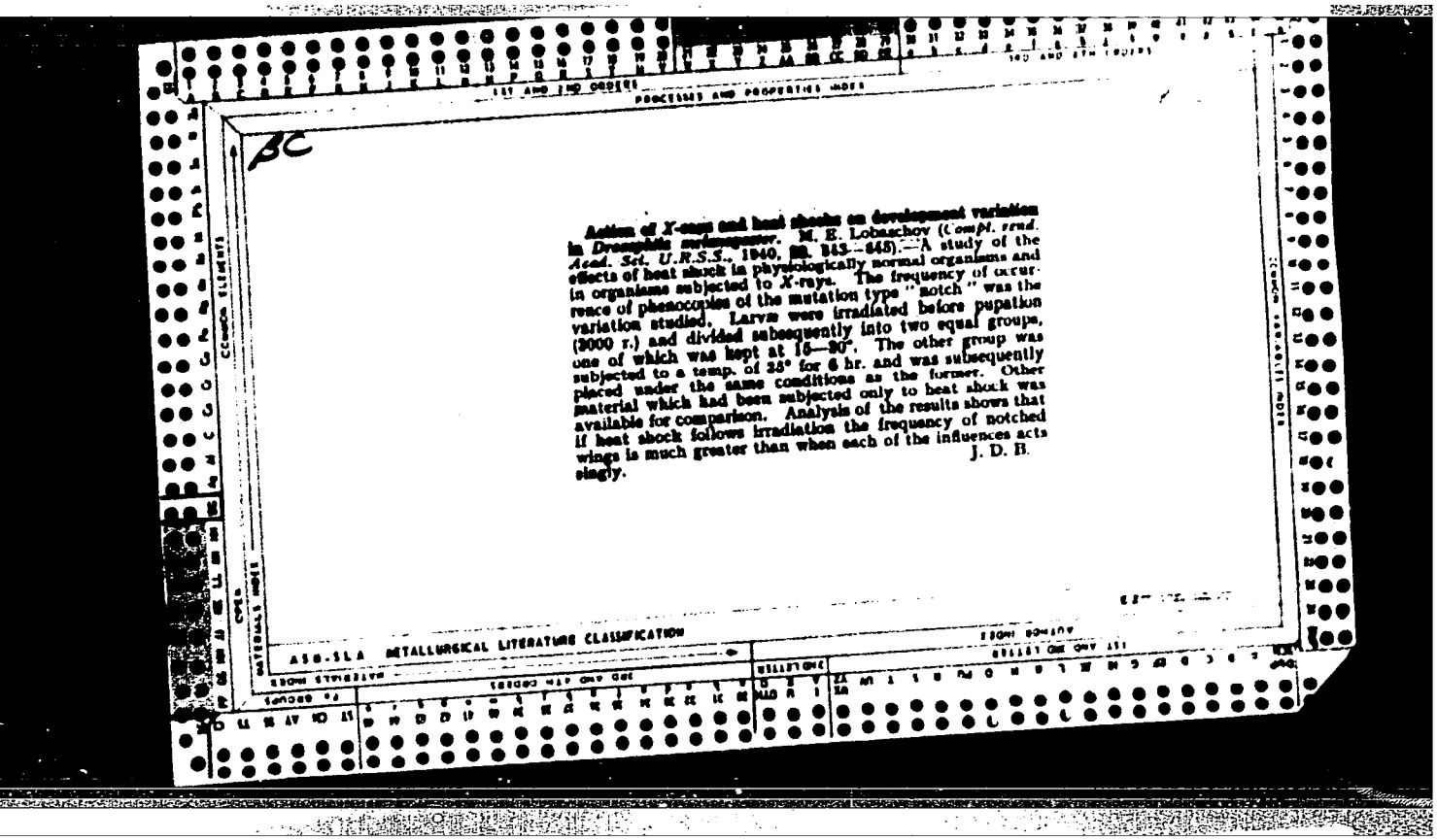
Lab. Animal Genetics & Exptl Zoology, Leningrad State U.

LOBASHEV, M. Ye.

"Germinal Selection and Dynamics of Mutational Variation," Dokl. AN SSSR, 27, No.9, 1940



Physiological discontinuance of ontogenesis and production of directed modifications. M. E. Lobaschov (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, 28, 939–942).—A study of the percentage of occurrence of phenocopies in two lines of *Drosophila* following X-irradiation. Attention is directed to the general nature of physiological discontinuity in ontogeny and to the importance of a synchronous run of sensitive periods in a given population of organisms for the production of directed non-hereditary variations. J. D. B.



Action of X-rays and heat shocks on development variation in *Drosophila melanogaster*. M. E. Lobaschov (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, **28**, 843–845).—A study of the effects of heat shock in physiologically normal organisms and in organisms subjected to X-rays. The frequency of occurrence of phenocopies of the mutation type "notch" was the variation studied. Larvæ were irradiated before pupation (3000 r.) and divided subsequently into two equal groups, one of which was kept at 15—20°. The other group was subjected to a temp. of 35° for 6 hr. and was subsequently placed under the same conditions as the former. Other material which had been subjected only to heat shock was available for comparison. Analysis of the results shows that if heat shock follows irradiation the frequency of notched wings is much greater than when each of the influences acts singly.

J. D. B.

LOBASHEV, M. Ye.

"Physiological (Paranecrotic) Hypothesis of the Mutation Processes,"
Vest. Leningrad U., No.8, 1947

LOBASHEV, M. YE.

USSR/Medicine - Marine Organisms
Medicine - Light, Effects

Oct 1947

"Some Regularities of Ontogenetic Adaptation; the Dependence of a Photoreaction in Daphnia Magna Upon Adaptation to Temperature," M. Ye. Lobashev, P. G. Ivanova, Leningrad State U, 4 pp

"Dok Akad Nauk SSSR" Vol LVIII, No 1

Presents results of experiments to explain in what measure a preliminary adaptation of Daphnia to different temperatures (3-8° and 27-32°C) can change their reaction to light when they are transferred to normal temperature conditions. Submitted by Academician I. I. Shmal'gauzen, 27 Feb 1947.

52T47

LOBASHEV, M. Ye.

"Sericulture and Reforestation," Priroda, No.5, 1949

LOBASHEV, M. Ye.

"The Role of Ivan A. Mertsalov in the Development of Native Russian Animal Husbandry," Priroda, No.12, 1949

LOBASHEV, M. Ye.

"Study of Reverse Substantial Changes in Cells of Drosophila by the Vital Staining Method," Dokl AN SSSR, 59, No.3, 1949

Inst. Evolutionary Physiol. & Pathology Higher Nervous Activity im. Pavlov, Koltushi

LOBASHEV, M. Ye.

"Phase Characteristics of Variations in the Reaction of 'Living Matter' During the Adaptation Processes of the Organism," Dokl. AN SSSR, 68, No.4, 1949

LOBASHEV, M. E.

"The Principle of Temporary Associations (Conditioned Reflexes) in the Behavior of Invertebrates." (p. 13) by Lobashev, M. E.

SO: Problems of Contemporary Biology, 1951, Vol. XXXI, No. 1, January-February

LOBASHEV, M. E.

False views in the field of evolutive physiology. Fiziol.zh. SSSR 37 no.3:368-378 May-June 51. (CIML 12:1)

LOBASHEV, M. Ye.; NIKITINA, I. A.

Temporary conditioned reflexes in silkworms. Doklady Akad. nauk SSSR 79 no.6:1053-1056 21 Aug 1951. (CIML 21:1)

1. Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR. 2. Presented 21 May 1951 by Academician K. M. Bykov.

LOBASHEV, M.Ye., zaveduyushchiy; VOSKRESENSKAYA, A.K.; LOPATINA, N.G.

Differentiation of conditioned stimuli according to color and smell by bees. Trudy Inst.fiziol. 1:141-156 '52. (MLRA 6:8)

1. Laboratoriya fiziologii nizshikh zhivotnykh.
(Color sense) (Bees) (Smell)

LOBASHEV, M. E.

"On the Behaviour of the Oak Silkworm (ntheraea Pernyi) in the Process of Spinning a Cocoon." (p. 406) by Lobashev, M. E. Laboratory of the Physiology of the Lower Animals, I. P. Pavlov Institute of Physiology of the Akad. Nauk, U.S.S.R.

SO: Journal of General Biology (Zhurnal Obshchey Biologii) Vol. XIII, No. 6, Nov.-Dec., 1952.

LOBASHEV, M.Ye.;SAVVATEYEV, V.B.

Conditioned reflex changes of sorption properties of protoplasm of the epithelial cell of the intestine. Fiziol. zh. SSSR 38 no.4:444-451 July-Aug 1952. (CLML 23:2)

1. Laboratory of the Physiology of Lower Animals, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad.

LOBASHEV, M.Ye.

LOBASHEV, M.Ye.; SAVVATEYEV, V.B.

Changing unconditioned reflexes in ontogenesis in chickens by the conditioned reflex method. First report: Changes of daily stereotype and the time of egg laying. Trudy Inst.fiziol. no.2: 503-522 '53. (MLRA 7:5)

1. Laboratoriya fiziologii nizshikh zhivotnykh (zaveduyushchiy - M.Ye.Lobashev). (Reflexes) (Birds--Physiology)

LOBASHEV, M.YE.

LOBASHEV, M.Ye.; SAVVATEYEV, V.B.

Changes in unconditioned reflexes in ontogenesis in chickens by the conditioned reflex method. Second report: Changes in sexual fertility. Trudy Inst.fiziol. no.2:523-541 '53. (MLRA 7:5)

1. Laboratoriya fiziologii nizshikh zhivotnykh (zaveduyushchiy - M.Ye. Lobashev). (Birds--Physiology) (Reflexes)

LOBASHEV, M.; KOSHTOYANTS, Kh.S.

Letters to the editor. Zhur.vys.nerv.deiat. 3 no.2:316-320 Mr-Ap '53.
(MLRA 6:6)
(Nervous system) (Conditioned response) (Pletsityy, D.F.)
(Volokhov, A.A.) (Tikhomirov, N.P.)

[redacted], A. A.

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Ocherki po istorii russkogo zhivotnovodstva (Outline history of Russian animal husbandry) Moskva, Izd-vo Akademii Nauk SSSR, 1954.
342 p. illus., map, ports., tables.
"Literatura": p. (328)-340.

LOBASHEV, M.Ye.

Changes in unconditioned reflexes in ontogenesis. Izv.AN SSSR Ser.biol. r.,2:74-90 Mr-Ap '54. (MLRA 7:2)

1. Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR Laboratoriya fiziologii nizshikh zhivotnykh. (Reflexes)

LOBASHEV, M.Ye.

Studying animal adaptation by the conditioned reflex method. Zhur. ob.biol. 16 no.2:95-105 Mr-Ap '55. (MLRA 8:5)

1. Institut fiziologii im. I.P.Pavlova AN SSSR.
(REFLEX, CONDITIONED,
in agricultural animals)

Q

USSR/Farm Animals. Honeybee.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78835.

Author : Lobashev, M. Ye.
Inst :
Title : Study of Instincts in Honey Bees by the Method of Conditioned Reflexes.

Orig Pub: Pchelovodstvo, 1958, No 1, 21-25.

Abstract: The instinct of insects is examined as a consecutive chain of separate reflex acts coordinately connected between themselves, which are conditioned by the course of the evolution of the species and by tests of the individual life in the form of conditioned reflexes. Experimentally with histological control, it was established that closure of temporary connections is accomplished in the fungoid bodies of the brain ganglia. The honeybee is characterized by all of the basic properties of higher nervous activity, established by the method of conditioned reflexes, of vertebrate animals. The dance of the bee appears at the moment of formation of the conditioned reflex to the smell of the flowers visited by the dancing bee.

Card : 1/2

USSR/Farm Animals. Honeybee.

Q

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78835.

Card : 2/2

Lobashev, M.Ye.

AUTHOR: Lobashev, M.Ye., Professor (Leningrad) 25-58-4-10/41

TITLE: Reflexes of Insects (Refleksy u nasekomykh)

PERIODICAL: Nauka i Zhizn', 1958, Nr 4, pp 21-22 (USSR)

ABSTRACT: Physiological investigations of insect behavior, carried out at the laboratory for the physiology of lower animals at the Institut fiziologii imeni I.P. Pavlova Akademii nauk SSSR (Institute of Physiology imeni I.P. Pavlov of the USSR Academy of Sciences), confirmed that conditional reflexes also exist in lower animals. This theory was proved by experiments with silkworms and bees. The method of conditional reflexes, primarily applied by Pavlov, revealed that all forms of inner brake-action occur in insect organisms. Moreover, it is possible to regulate excitation and brake processes, and to reproduce acts of behavior, previously considered as merely instinctive. There are 5 sketches.

AVAILABLE: Library of Congress

Card 1/1 1. Ecology 2. Bionomics

LOBASHEV, Mikhail Yefimovich; SAVVATEYEV, Vladimir Borisovich; AYRAPET'YANTS, E.Sh., otv.red.; VASIL'YEVA, Z.A., red.izd-va; ARONS, R.A., tekhn.red.

[Physiology of diurnal rhythms in animals] Fiziologiia sutochnogo ritma zhivotnykh. Moskva, Izd-vo Akad.nauk SSSR, 1959. 257 p. (MIRA 13:1)
(PHOTOPERIODISM)

LOBASHEV, M.Ye.

Biology of the conditioned response. Trudy Inst.fiziol. 8:133-141 '59. (MIRA 13:5)

1. Laboratoriya fiziologii nizshikh zhivotnykh (zaveduyushchiy - M.E. Lobashev) Instituta fiziologii im. I.P. Pavlova AN SSSR.
(CONDITIONED RESPONSE)

17(1) SOV/20-126-6-66/67

AUTHORS: Lobashev, M. Ye., Savvateyev, V. B., Marshin, V. G.

TITLE: Adaptation to an Unconditioned Stimulus in the Process of the Formation of a Conditioned Reflex (Adaptatsiya k bezuslovnomu razdrazhitelyu v protsesse obrazovaniya uslovnogo refleksa)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 6, pp 1385-1388 (USSR)

ABSTRACT: Usually the adaptation process of the animal organism in the ontogenesis is regarded as the result of two systems of reflex activity: conditioned and unconditioned. However, the interrelation of these two systems is a complex combination of the adaptation processes taking place, according to their mechanism, synchronously or asynchronously. The reflex adaptation changes are conditioned by a system of combinations which is closed at the central end of the analyzer. At the same time an adaptation to each of the individual stimuli, both conditioned and unconditioned, in the receptors of the peripheric part of the analyzer is possible. Here a coupled adaptation to two or more simultaneous stimuli can come about. By including the conditioned-reflex activity into the adaptation process of the organism in the

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phylogenetic series the influence of external agents becomes a coupled influence, according to the principle of conditioned reflexes. For these reasons it is necessary to consider the differences in the mechanisms of adaptation to unconditioned stimuli and adaptation coming about according to the principle of conditioned reflexes. When a defence reflex is worked out with the support of an electric current, an adaptation to the latter occurs after a number of applications. As the number of combinations increases, the stimulus threshold is changed, and the intensity of the support must be increased. This increase is necessitated by the fact that the level of excitation in the unconditioned center has to be increased for the purpose of developing and fastening the conditioned reflex. (Refs 1-3). In the experiments carried out by the authors with fish a conditioned reflex - cessation of respiration caused by a light stimulus supported by increased water temperature - was developed. As the number of combinations was increased, the reaction of the adaptation of the movement of the gill cover to both conditioned and unconditioned reflexes was included in the study; with each combination the temperature threshold was recorded at which respiration ceased. With the increasing

number of combinations these data rendered it possible to study the duration and character of the signal effect of the light and to observe the adaptation dynamics of the fish to an unconditioned stimulus. The raising of the temperature threshold at which respiration ceased served as an index of the increase in resistance to temperature due to adaptation. It was found in the case of the tench (Tinca tinca L.) that the orientation reaction appears in the form of a slowing of the gill cover movement or a complete cessation of respiration if lit with a lamp of 40 watts and up. The rate of extinction of the orientation reflex proved to be a function of the intensity of the light stimulus. This is in complete agreement with the "Law of the Intensity" found for the rate of formation of conditioned reflexes. Experiments carried out in a number of variants with ten fish yielded identical results. At the beginning of the experiment, when the conditioned reflex to lamp light is developed, respiration stops as soon as the water temperature has reached 22-24°. With an increase in the number of combinations an adaptation to temperature comes about and the threshold at which respiration stops is raised to 31-32°,

in some animals even 34°. It therefore becomes necessary, in developing the conditioned reflex to a light stimulus with the support of temperature, to increase the temperature for the following combinations, as soon as the temporary combination has become fixed, i.e., as soon as the light stimulus combined with a high temperature has attained the significance of a signal (after 19-20 combinations) the cessation of respiration was adapted to the signal agreed upon for all different water temperatures (Fig 1). 2 adaptation mechanisms can be clearly distinguished. They do not preclude one another, but are complementary. They are called "unconditioned - reflex" and "conditioned - reflex adaptation" by the author. There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR (Institute of Physiology imeni I. P. Pavlov, Academy of Sciences, USSR)

PRESENTED: November 10, 1958, by K. M. Bykov, Academician

SUBMITTED: October 28, 1958

LOBASHEV, M.Ye.; SAVVATEYEV, V.B. [deceased]; KASIMOV, R.Yu.; PONOMARENKO, V.V.

Studying certain aspects of animal hypnosis. Fiziol. zhur. SSSR 46 no. 9:1083-1089 S '60. (MIRA 13:10)

1. From the Laboratory of Inferior Animals Physiology, Pavlov Institute of Physiology, Leningrad.
(HYPNOTISM)

LOBASHEV, M.Ye., prof.

Signal inheritance. Issl. po gen. no.1:3-11 '61. (MIRA 15:1)
(CONDITIONED RESPONSE) (EVOLUTION)

LOBASHEV, M.Ye.; KASIMOV, R.Yu.; MARSHIN, V.G.

Inheritance of some characteristics of higher nervous activity in interspecific hybridization. Izv. AN SSSR. Ser. biol. 27 no.1:56-69 Ja-F '62. (MIRA 15:3)

1. Physiological Institute, Academy of Sciences of the U.S.S.R., Leningrad.

(HYBRIDIZATION)
(NERVOUS SYSTEM--FISHES)

LOBASHEV, M.Ye.; LOPATINA, N.G.; NIKITINA, I.A.; CHESNOKOVA, Ye.G. (Leningrad)

Physiological mechanism of the orientation of honeybees in space.
Usp. sovr. biol. 53 no.2:152-168 Mr-Ap '62. (MIRA 15:5)
(BEES) (ORIENTATION)

LOBASEV, M.E. [Lobashev, M. Ye.]; KASIMOV, R.I.; MARSIN, V.G. [Marshin, V.G.]

Inheritance of some features of the higher nervous activity in the interspecific hybridization. Analele biol 16 no.4:30-45 Jl-Ag '62.

PONOMARENKO, V.V.; MARSHIN, V.G.; LOBANOV, M.Yo.

Study of the inheritance of properties of the higher nervous activity in intervarietal and interspecific reciprocal crosses. Issl. po gen. no.2:8-20 '64. (MIRA 18:4)

LOBASHEV, M.Ye.; LOPATINA, N.G.; NIKITINA, I.A.; CHESNOKOVA, Ye.G.

Simultaneous action of acoustic and tactile stimuli on the locomotive and flying activity of the honeybee Apis melliferna (Hymenoptera, Apidae). Ent. obozr. 44 no.3:557-562 '65. (MIRA 18:9)

1. Institut fiziologii imeni I.P.Pavlova AN SSSR, Koltushi Leningradskoy oblasti.

LOBASHEV, N. Ye.: KOREVICH, L. A.

Mbr., Biological Institute, Leningrad State University (-1947-)

"Investigation of Substantial Adaption by Method of Vital Dyes," Lok. AN, 57, No. 9, 1947

LoBASHEV, V. M.

21 (7), 21 (8)

AUTHOR: Rudakov, V. P. SOV/89-[illegible]-18/[illegible]

TITLE: IX All-Union Conference on Nuclear Spectroscopy (IX Vsesoyuznoye soveshchaniye po yadernoy spektroskopii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr [illegible], pp [illegible] (USSR)

ABSTRACT: The IX All-Union Conference was held from January 26 to February 2, 1959 at Khar'kov. More than 300 participants heard 100 lectures, the most important of which dealt with the following fields. Nuclear Theory. General problems of [illegible]-decay. A. S. Davydov (MGU): Theoretical classification of low-energy excited nuclear states. L. K. Peker: Deformed nuclei. [illegible] Birbrain, L. K. Peker, L. A. Sliv (LFTI): Quadrupole oscillations of deformed nuclei. Ya. [illegible], V. [illegible], S. P. Taytko (KhFTI): Calculation of the ft-values with matrix elements for β-transitions by means of the generalized nuclear model. S. T. Belyayev (IAE): Consideration of pair-correlation in nuclei. A. [illegible] (IAE): The application of the superconductivity model to nuclei for the purpose of calculating their moments of inertia. P. E. Nemirovskiy (IAE): Problems of the neutron stability of nuclei. [illegible] (IAE): The present stage in the theory of β-decay. [illegible]

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V. K. Grigor'yev, V. A. [illegible], [illegible] (ITEF): Measurement of the angular correlation between electron and neutrino in the decay of the neutron. [illegible], [illegible] Nazarenko, [illegible] (LFTI): Measurement of the correlation between the transversal electron polarization and circular polarization of γ-quanta occurring in the decay of Sc^{46} and Co^{60}. Decay Schemes. γ-radiation of Nuclei. [illegible] Anufriyev, A. K. Val'ter, Yu. V. Gonchar, Ye. [illegible], A. N. L'vov, P. M. Tutakin, S. P. Tsytko, P. V. Sorokin, A. S. Deyneko, I. Ya. Malakhov, A. Ya. [illegible] (Fiziko-tekhnicheskiy Khar'kovskiy institut (Physico-technical Institute, Khar'kov)): The $Si^{28,29,30}(p,\gamma)$, $Ne^{20}(p,\gamma)$, $S^{32,34}(p,\gamma)$, $Ar^{40}(p,\gamma)$ and $N^{14}(p,\gamma)$ reactions. D. G. Alkhazov, A. P. Grinberg, G. M. [illegible], M. Kh. Lemberg, V. V. Rozhdestvenskiy, [illegible] (Leningradskiy fiziko-tekhnicheskiy institut (Leningrad Physico-technical Institute)): Investigation of the Coulomb excitation of the lower levels of some nuclei during their bombardment by multiply charged ions (C, N, O, and Ne). A. Y. Kalyamin, A. N. Murin, [illegible], V. A. [illegible] (RIAN): New isotopes Tu^{161}, Ho^{153}, Ho^{155} and Ho^{157}. B. S. Dzhelepov, [illegible] Sergiyenko (LGU): Decay schemes of some neutron-deficient isotopes, set up on the basis of measurements of the coincidence of the internal conversion electrons. Spectroscopy Engineering. B. S. Dzhelepov, [illegible], [illegible], V. G. Chumin (RIAN): β-spectrometer with double focusing. [illegible], [illegible], A. [illegible], A. P. [illegible], Q. Ya. Shchepkin (IAE): Improved β-spectrometer. [illegible] Barchuk, [illegible], V. I. Gol'yshkin, [illegible] (IFAN UkrSSR): Magnetic spectrograph for heavy charged particles. The representatives of the Ministerstvo radiotekhnicheskoy promyshlennosti (Ministry of the Radio-engineering Industry) gave a report about new multipliers. The Conference was closed by B. S. Dzhelepov who stressed the fact that nuclear tables and reference works ought to be published much more quickly in order to be of real use to the experimenter.

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24.6200,24.6400,24.6500,
24.6600,24.6700,24.6510

77001
SOV/56-37-6-41/55

AUTHORS: Lobashev, V. M., Nazarenko, V. A. and Rusinov, L. I.

TITLE: Letter to the Editor. The Polarizational β-γ-Correlation in the β-Decay of Co^{60}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1810-1811 (USSR)

ABSTRACT: As was predicted by A. Z. Dolginov (cf., Zhur. Eksp. i Teoret. Fiz., 35, 178, 1958) and H. A. Tolhock (cf., Rev. Mod. Phys., 28, 277, 1956), a transverse polarization of β-electrons escaping in a plane perpendicular to the nuclear spin, takes place during the β-decay of polarized nuclei. The authors have investigated the correlation between the transversely polarized electrons and circularly polarized γ-quanta formed in the β-decay of Co^{60} ($\sim$100 μ Cu). A case was studied where the electron momentum $\vec{p}$ lies in the plane perpendicular to the momentum $\vec{k}$ of γ-quantum, which possesses circular polarization σ. The spin of electron s was anti-parallel to $\vec{k}$. Measurements

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were made of the degree of the circular polarization of γ-quanta, which coincide with β-electrons. The circular polarization of γ-quanta was determined from the compton scattering forward on magnetized iron. The substitution of the results in the equation

$$\Delta = 2(I_1 - I_2)/(I_1 + I_2), \quad I_{1,2} = R_e/R_0R_1;$$

gave $\Delta = (0.50 \pm 0.18)\%$. The calculation with the aid of the equation

$$W(\vartheta) = 1 + A\sigma. \quad (1)$$

yielded $A = 0.32 \pm 12$. The theoretical value for A is 0.24 (cf., A. Z. Dolginov, loc. cit.). This work was performed under the guidance of A. Z. Dolginov;

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Letter to the Editor. The Polarizational β-γ-Correlation in the β-Decay of Co^{60}

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O. V. Saltykovskiy, V. S. Andryukevich and A. V. Kurakin participated in the experimental part of this study. There is a schematic diagram of the setup; and 6 references, 1 Soviet, 1 German, 4 U.S. The U.S. references are: H. A. Tolhock, Rev. Mod. Phys., 28, 277 (1956); H. Schopper, Phil. Mag., 2, 710 (1957); F. Bohem, A. H. Wapstra, Phys. Rev, 109, 456 (1958); N. Sherman, Phys. Rev., 103, 1601 (1956).

ASSOCIATION: Leningrad Phys.-Tech. Inst. Acad. Sciences USSR, (Leningradskiy fiziko-tekhnicheskiy institut, Akademii nauk SSSR)

SUBMITTED: August 14, 1959

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89197
S/056/61/040/001/002/037
B102/B204

24.6810

AUTHORS: Lobashov, V. M., Nazarenko, V. A., and Rusinov, L. I. (Deceased)

TITLE: βγ-Polarization correlation in the β-decay of Sc^{46}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 1, 1961, 10-12

TEXT: Within the framework of experiments made for the purpose of verifying the T-invariance of the β-decay, the βγ-correlation in the decay of polarized neutrons and the βγ-correlations in the decay of orientated nuclei has already been measured, and it was found that (with an accuracy of 15-30%) no imaginary part occurs in the β-interaction Hamiltonian. The amount of this correlation in these experiments depends on the imaginary part of the interference VA terms; as, however, an S- and T-admixture could hitherto not be excluded, this should also be taken into account. This was the purpose of the present paper. By trying to estimac the amount of Im(VT, SA), the correlation between the transverse polarization of the electron and the circular polarization of the gamma quantum were experimentally determined.

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B102/B204

βγ-Polarization correlation ...

The experimental arrangement is shown in Fig. 2. A theoretical study of the correlation coefficient K for allowed transitions (according to A. Z. Dolginov) shows that K depends on the degree of interference of the Gamow-Teller and the Fermi matrix elements. Thus, Sc^{46} was chosen as a source owing to its high degree of interference of the matrix elements. The electrons coming from the source (S) are collimated on a bismuth film (0.5 mg/cm^2), scattered through ~135°, and recorded by means of a scintillator, which is connected with the photomultiplier via a light pipe. Owing to the azimuthal asymmetry, which is connected with Mott scattering, the beam of the scattered electrons is polarized in the direction $[\vec{p}_1\vec{p}_2]$, ($\vec{p}_1$ is the momentum of the electron before, and $\vec{p}_2$ that after scattering). In order to increase counting intensity, circular geometry was used. The circular polarization of the γ-quanta was measured by means of the method of the Compton forward scattering on magnetized iron. The outputs of the photomultiplier of the β- and γ-detectors were connected in fast-slow coincidence with $2\tau = 1.8 \cdot 10^{-8}$ sec. From the measured results $\Delta = 2(I_1-I_2)/(I_1+I_2)$, $I_{1,2} = R_{coinc}/R_\beta R_\gamma$ was calculated, and thus $K = \Delta/P_\gamma P_\beta$ was determined, where

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P_γ, and P_β are the efficiency of the γ and β-polarimeters. One obtained: $\Delta = (+0.15 \pm 0.11)\%$, and herefrom the correlation coefficient was found to be $K = 0.08 \pm 0.06$. The experiments were repeated by means of a thick scatterer ($\sim 5 mg/cm^2$), from which it followed that the experimental arrangement had no asymmetry. Thus, it was found that, as

$$K = +0.04 \text{ with } Im(VT,AS) = 0$$

$$K = \begin{matrix} +0.23 \\ -0.15 \end{matrix} \text{ with a maximum } Im(VT,AS)$$

is $Im(VT,AS) = 0$ with a statistical accuracy of ~30%. For the purpose of checking the experimental method, also βγ correlation experiments were carried out on Sc^{46} and Co^{60}, and results were obtained, which showed good agreement with those obtained by other authors. The authors finally thank A. Z. Dolginov for discussions and for his interest, O. M. Saltykovskiy, V. V. Andryukevich, and A. V. Kurakin for the experimental assistance. There are 2 figures and 5 references: 2 Soviet-bloc and 2 non-Soviet-bloc.

S/056/61/040/001/002/037
B102/B204

βγ-Polarization correlation ...

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences USSR)

SUBMITTED: June 22, 1960

Legend to Fig. 2: S - source; 1) electron scatterer, 2) plastics scintillator, 3) light pipes, 4) vacuum chamber, 5) outlet window for γ-quanta, 6) magnet of the γ-polarimeter, 7) photomultipliers.

LOBASHEV, Yu.B.

Graphic analysis method of calculating the amplitude of double frame resonant screens. Obog. rud. 8 no.2:22-26 '63.
(MIRA 17:2)

KAMINIR, Lev Borisovich; LOBASHKOV, S.I., red.; SHIROKOVA, M.M., tekhn. red.

[Radio electronics in biology] Radioelektronika v biologii. Moskva, Gosenergoizdat, 1962. 55 p. (Massovaia radiobiblioteka, no.439) (MIRA 16:6)
(Electronics in biology)

KOTOVSKAYA, A.R.; LOBASHKOV, S.I.; SIMPURA, S.F.; SUVOROV, P.M.; KHLEBNIKOV, G.F.

Effect of prolonged transverse acceleration on the human organism. Probl.kosm.biol. 2:238-246 '62. (MIRA 16:4)
(ACCELERATION--PHYSIOLOGICAL EFFECT)

S/056/62/043/005/003/058
B163/B186

AUTHORS: Lobashov, V. M., Nazarenko, V. A., Sayenko, L. F.

TITLE: Determination of the spin of Eu^{152m}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1579-1581

TEXT: The β-γ correlation between the momentum of the β-electron and the circular polarization of the 1.327 Mev γ quantum in the allowed branch of the Eu^{152m} β-decay with a β-electron end-point energy of 560 kev is measured. This β-decay, whose frequency of occurrence among all decays of Eu^{152m} is 1.2%, leads to the 1.315 Mev excited 1^- state of Gd^{152}. The measurements were made with an apparatus described earlier (V. M. Lobashov et al., ZhETF 41, 1433, 1961), then used for investigating the similar Pr^{144} decay by an analogous experimental procedure. The Eu^{152m} source was made of about 100μg/cm^2 europium oxide on an Al backing foil, irradiated in the FTI AN SSSR reactor. The value of $\Delta = 2(I_1 - I_2)/(I_1+I_2)$

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Determination of the spin of Eu^{152m}

is found to be $+(1.6 \pm 0.4)\%$ where $I_{1,2} = R_{coine}/R_{\mu}\theta_{\beta}$; R_{coine} and R_{μ} denote the counting rates for coincidences and single pulses of the μ channel respectively, and θ_{β} is a correction factor for the influence of the magnetic field on the β-channel (0.03%). The subscripts 1 and 2 respectively correspond to different magnetization directions in the μ polarimeter. From this, the correlation coefficient A_1 is calculated taking into account the background of casual coincidences; also the geometry and the efficiency of the μ polarimeter; $A_1 = +(0.40 \pm 0.10)$. For the transitions $0^- \xrightarrow{\beta} 1^- \xrightarrow{\gamma} 0^+$ a correlation coefficient of +1.00 is to be expected, but for the transitions $1^- \xrightarrow{\beta} 1^- \xrightarrow{\gamma} 0^+$ a correlation coefficient of the observed magnitude is possible. It is concluded that spin and parity of the Eu^{152m} isomeric state are 1^- instead of the previously accepted value 0^-. The reliability of the applied experimental procedure is confirmed by the fact that $\beta\gamma$-correlation measurements in the β decays of Co^{60} and Au^{198} (V. M. Lobashov et al., ZhETF 42, 358, 1962)

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have given results in good agreement with those of other authors. It is important to know the spin and parity of the Eu^{152m} isomeric state in connection with the experiment of Goldhaber et al. (Phys. Rev. 109, 1015, 1958) whereby the polarization of the neutrino from the K decay was measured. Goldhaber's main result i. e. his conclusion on the chirality of the neutrino, is not affected, but the expected greater accuracy from further such experiments with Eu^{152m} to determine the polarization of the neutrino is diminished. There is 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: April 28, 1962

SOV/110-58-10-19/24

AUTHOR: Synorov, F.V. (Cand.Phys.Math.Sci.) & Lobashevskiy, L.V. (Engineer)

TITLE: On 'The sliding contact' in the Great Soviet Encyclopaedia (O 'Skol'zyashchem kontakte' v Bol'shoy Sovetskoy Entsiklopedii)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, No.10. pp. 72-74 (USSR)

ABSTRACT: In the article 'The sliding contact' in the Great Soviet Encyclopaedia it is stated that the volt-ampere characteristics of contact are linear and that there is no polar effect in the copper/brush contact when stationary. These statements are not confirmed by experiments described in this article. Tests show, firstly, that a copper/copper contact is linear at current densities up to 100 A/cm^2 and does not depend on the direction of flow of current. Then the contact characteristics of a brush/brush contact are given, in Fig.2. With one type of brush the contact resistance is practically independent of current density and direction, but in another linearity is disturbed, apparently by local heating effects. Next the resistance of a stationary copper/brush contact is shown by the graphs in Fig.3. to depend on the magnitude and direction of the current. This also applies to sliding contacts in electrical machines. Tests were made of the transient voltage-drop at low current-densities; the curves in Fig.4. indicate that polar differences also occur at very low current-densities where the

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influence of the current on the properties of the contact is excluded. Heating of the contact increases the thickness of oxide layer on the copper surface and hence increases the contact resistance. The contact resistance between a brush and gold does not alter with temperature, because no oxide film is formed. There are 4 figures and 1 literature reference (Soviet).

1. Sliding contacts--Electrical properties 2. Sliding contacts--Test results 3. Sliding contacts--Encyclopedias 4. Literature--Errors

SOV/110-58-11-6/18

AUTHOR: Lobashevskiy, L.V. (Engineer)

TITLE: A Procedure for Obtaining the Static Volt-ampere Characteristic of a Sliding Brush Contact (Metodika snyatiya statícheskikh vol't-ampernykh kharakteristik skol'zyashchego shchetochnogo kontakta).

PERIODICAL: Vestnik Elektropromyshlennosti, Nr.11, 1958, pp.26-28, (USSR)

ABSTRACT: Although a great deal of work has been done on commutation there is no general theory covering all the phenomena of commutation in electrical machines. It is most important for machine designers to know the value of the contact voltage-drop at various current densities. There are, however, no established procedures for measuring the volt-ampere characteristics of brushes, which are required when determining the voltage-drop. The methods used in the brush manufacturers' factories suffer from the defect that the temperature varies at the same time as the current, and the voltage-drop is a function of both.

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A Procedure for Obtaining theStatic Volt-ampere Characteristic of a Sliding Brush Contact.

Several investigators have installed heaters on the commutator and brushes when determining volt-ampere characteristics but by this means it is not possible to alter the temperature of the sliding contact whilst the characteristic is being taken. The authors of this article used a special equipment to determine volt-ampere characteristics after several intervals of time for each current value. Some of the results are plotted in Fig.1. The flattest characteristic is obtained with a time delay of four seconds at each current value. The steepest characteristic is obtained with a time delay of 20 minutes at each current value: with these intervals, the thermal condition of the contact may be considered steady. Intermediate time delays give intermediate characteristics. It follows that characteristics determined by existing procedures are not sufficiently informative. Fig.2 gives volt-ampere characteristics with time delays of 4 secs, 2, 5 & 10 minutes at each current value. All give identical values of contact

A Procedure for Obtaining the Static Volt-ampere Characteristic of a Sliding Brush Contact.

voltage-drop for corresponding values of current density. In this case the volt-ampere characteristics coincide, because the sliding-contact temperature was the same throughout, and, therefore, the delay time at each current value did not influence the characteristic. Volt-ampere characteristics taken at constant contact temperature can be used to study the transient voltage-drop as a function of current density only, and when this is done brushesmay be divided into two main groups: one group comprises brushes containing metal, for which the voltage-drop is greater when the current flows from the brush to the slip-ring than when it flows in the opposite direction; the second group comprises graphite brushes, whose voltage-drop behaves conversely. Volt-ampere characteristics of brushes Grade MGS-7 at a constant contact temperature of 125°C and under stated conditions, are seen in Fig.3. An expression is given for the contact voltage-drop, and parameters entering into this equation are plotted in Figs.4 and 5 for different contact temperatures. It is

A Procedure for Obtaining the Static Volt-ampere Characteristic of a Sliding Brush Contact.

concluded that further study of the volt-ampere characteristics of different grades of brushes will make it possible to replace the value of contact voltage-drop given in Standard GOST-2332-43 by voltage-drop values calculated by the given formula using experimental curves of the parameters. There are 5 figures and 1 table.

SUBMITTED: February 18, 1958.

1. Carbon brushes--Electrical factors 2. Carbon brushes--Temperature factors 3. Electric currents--Properties 4. Voltage--Determination

88169

S/144/60/000/010/006/010
E073/E535

13,2000
6.9419

AUTHORS: [redacted], Mosin, V.G. and Tuktayev, I.I., Engineers

TITLE: On Reducing the Width of Brushes for Low Power Commutator Motors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No.10, pp.78-81

TEXT: In small commutator motors the brush width is determined purely by mechanical considerations. Use of end face commutators with the brushes running on the flat surface would eliminate some of the difficulties involved in using narrow brushes on conventional cylindrical commutators. To investigate the operation of narrow brushes on commutators of this type, the authors used a 1 kW, 3000 r.p.m. electric motor. Reduction of the brush width was effected by filing the contact face of the brushes. Thereby, the mass of the brushes changed only insignificantly and the pressure on them remained constant at about 100 g. The wider brush covered 1.43 commutator bars, whilst the narrow brush covered only 0.88 bars. The results have shown that by using the narrow brushes the radio noise was reduced by 30% and the sparking also decreased. According

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S/144/60/000/010/006/010
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On Reducing the Width of Brushes for Low Power Commutator Motors

to N. P. Yermolin (Ref.12) use of such end face type commutators and narrow brushes is very promising for high r.p.m. machines. For investigating the potentialities of such a machine the NII Branch produced a 1 kW, 15000 r.p.m. machine. The machine was first fitted with an armature with a cylindrical commutator; in this case the degree of sparking was "2 balls". Following that, it was fitted with an armature with an end face type commutator. The radio noise was measured that was generated with wide and with narrow brushes. The results are given in Table 1. Attention is drawn to the fact that in the case of using narrow brushes the excitation ampere turns decreased by about 10%. The following conclusions are arrived at:

1. Use of narrow brushes on end face type commutators in small machines improves the commutation owing to better utilization of the mass of the brushes and narrowing of the commutation zone.
2. Reduction of the pressure when operating with narrow brushes on end face type commutators reduces the friction losses and reduces the wear of the brushes and of the commutator.
3. In the case of a steep front increase of the inductance in the

On Reducing the Width of Brushes for Low Power Commutator Motors

commutation zone, a narrow brush can be placed more accurately into the neutral zone.
4. Narrowing of the commutation zone permits reducing the dimensions of the additional poles.
5. Application of narrow brushes on end face type commutators leads to a reduction in the generated radio noise.
6. A more efficient utilization of the active conductors of the armature winding in the case of using narrow brushes enables reducing the excitation ampere turns, which is particularly important in small motors.
7. In using narrow brushes the dimensions of the current collecting system can be considerably reduced.
8. Narrow brushes enable reducing the reaction caused by the commutating currents.
There are 1 table and 12 Soviet references.

ASSOCIATION: Tomskiy filial nauchno-issledovatel'skogo instituta
(Tomsk Branch of the Scientific Research Institute)

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E073/E535

On Reducing the Width of Brushes for Low Power Commutator Motors

Table 1

Number of Commutator Bars Covered by the Brush	Brush polarity	Radio noise, μV, frequency Mc/s				Sparking in "balls" according to ГОСТ (GOST)
		0.16	0.25	0.35	20	
2.4	+	2400	2500	950	200	2
	-	2700	3000	1200	1400	
1.6	+	1800	2400	800	45	$1\frac{1}{2}$
	-	2000	2000	750	30	
0.86	+	1200	1400	500	45	$1\frac{1}{4}$
	-	1300	1700	700	30	

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LOBASHEVSKIY, LEV VASIL'YEVICH, inzh.; TUKTAYEV, IGOR' IZMAYLOVICH, inzh.;
DEMIN, GENNADIY YAKOVLEVICH, starshiy tekhnik

Selection of specific pressures on the brushes of collector-type machinery. Izv. vys. ucheb. zav.; elektromekh. 4 no.7:87-92 '61. (MIRA 14:7)

(Electric machinery)
(Brushes, Electric)

LEVASHOV, Yuriy Sergeyevich, inzh.; LOBASHEVSKIY, Lev Vasil'yevich, inzh.; TUKTAYEV, Igor' Izmaylovich, inzh.

Universal device for recording the volt-ampere characteristics of electric brushes. Izv. vys. ucheb. zav.; elektromekh. 4 no.3:116-122 '61. (MIRA 14:7)

1. Filial nauchno-issledovatel'skogo instituta Tomskogo sovnarkhoza.

(Brushes, Electric)
(Electronic measurements)

KARASEV, M.F., doktor tekhn.nauk, prof.; LOBASHEVSKIY, L.V., kand.tekhn.nauk

Use of brush compounds in low-power electric machinery. Trudy OMIIT 40:79-97 '63. (MIRA 18:8)

S/865/62/002/000/025/042
D405/D301

AUTHORS: Kotovskaya, A.R., Lobashkov, S.I., Simpura, S.F., Suvorov, P.M. and Khlebnikov, G.F.

TITLE: Effect of prolonged transverse accelerations on human organism

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962, 238-245

TEXT: The investigation had the following main objects: to study the effect of prolonged transverse accelerations on the principal physiological functions of the organism; to determine the limits of endurance of acceleration; the selection of the optimal position of the human body during acceleration; the development of methods of training and selection for astronauts. Experimental method: A group of specially selected healthy persons aged 25-30 was subjected to centifuge tests. The response to accelerations of 7, 9, 10 and 12 g was investigated. The indicators of the following

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Effect of prolonged ...

basic physiological functions were recorded: electrocardiograms; arterial pressure; pulse and respiration rate; lung ventilation and gas exchange; electroencephalograms; electromyograms of thorax and peritoneal muscles; the duration of the latent period of motor response to light signals; the penetrability of cutaneous capillaries. Results: The subjects could sustain accelerations of 7-12 g for a period of 3 minutes to 30 seconds respectively. The external respiration underwent marked changes; the subjects experienced difficulties in breathing. The number of cardial contractions increased. The arterial pressure also increased. Some regular changes in the bioelectric activity of the brain were noted; these changes can be divided into 3 main stages. The latent period of response to light signals increased to 0.8-0.9 seconds. The acuity of sight decreased in the majority of subjects by 20-30%. The bioelectric activity of the investigated muscles increased. All these physiological changes reverted to normal 3-5 minutes after the acceleration ceased. An analysis of the obtained material showed that the changes in the physiological functions are within tolerable limits, being determined by the magnitude and duration of the overload. Cutaneous hemorrhages

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Effect of prolonged ...

were observed in most of the subjects after the acceleration ceased. The optimal position of the body was found to be a 10° inclination of the back of the chair with respect to the horizontal. The experiments made it possible to divide the subjects into 3 groups with regard to endurance: those with high endurance, satisfactory endurance, and low endurance. The obtained results were used in developing a special training program for the astronauts Yu. A. Gagarin and G.S. Titov. There are 2 figures and 4 tables.

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